

### **REMARKS**

Reconsideration and allowance of the above-identified application are respectfully requested in view of the amendments and remarks made herein.

Claims 1-7, 9-11 and 20-33 are pending, wherein claims 1, 3, 6, 27 and 29 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,909,904 to Shea (“Shea”). Claims 4, 5, 31 and 33 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Shea. In addition, claims 2, 7, 28 and 32 stand objected to as being dependent on rejected base claims. Applicants appreciate the Examiner’s indication of allowable subject matter in these claims and also in claims 9-11 and 20-26, and now turn to the outstanding rejections.

#### **The 35 U.S.C. § 102(b) Rejection**

Claims 1, 3, 6, 27 and 29 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Shea. In order to expedite the prosecution of this application, claim 1 has been amended to include the allowable subject matter from claim 2 (which has been canceled accordingly). Therefore, claim 1 is now allowable. Because claims 3 and 6 depend from claim 1, claims 3 and 6 are also allowable. In addition, claim 7 has been amended by rewriting it into independent form to include limitations of the base claim (which is claim 1 before the current amendment), therefore, amended claim 7 is allowable. No new matter has been added.

Regarding claims 27 and 29, before analyzing the deficiencies in the teachings of Shea, a brief review of independent claim 27 is appropriate. Claim 27 claims a structure of a metal tube and a metal tube support bracket, said structure comprises a circular tube-receiving aperture, and an annular, castellated collar abutting said aperture, said metal tube received within said circular tube-receiving aperture and ***said collar being swaged against said metal tube and biting into said metal tube***, wherein said collar is formed from a plurality of spaced-apart, axial tabs, and wherein ***the swaging of said collar presses said axial tabs against said metal tube to produce a hoop stress***

*against said metal tube and causes said axial tabs to bite into said metal tube thereby locking the tube to the bracket.*

Shea discloses a flange joint assembly for connecting together cylindrical duct sections. In relevant part, Shea teaches:

An important feature of the invention is that notched flange clamp 15 can be manufactured in large volumes for all anticipated diameters. The notched flange clamp 15 embodies a steel sheet metal ring base having a multiple leaves extending therefrom. **The steel leaf surface provides the needed flexibility to snugly fit within the joint assembly.**

**Each leaf of the notched flange clamp is pierced with a counterpunch device which causes projections 16 to protrude inwardly toward the outer surface of the duct or pipe.** Alternative modes of producing a grip are knurling, crimped edges or serrations. Flange rings 17 having a flat annular surface are secured to the base of notched flange clamps 15 by welding or a other securing procedure.

**After the notched flange clamps 15/flange rings 17 component have been placed on the ducts as seen in FIGS. 2 and 2A, band clamps 18 having an annular sheet metal ring joined together by set-up bolt 19 are placed around the perimeter of the notched flange clamps which tighten down the leaves of the notched flange clamp as seen in FIGS. 3 and 3A. The projection 16 seen in FIGS. 2, 2A and 5 on each leaf is forced down into the exterior wall surface of the duct especially where the duct is made of thermoplastic or fiberglass.** There is a partial penetration of the projections into the duct wall which prevents separation of the ducts under modest pressure.

(Shea, col. 4, lines 42-67 (emphasis added).)

Thus, Shea is concerned with connecting together non-metal ducts, such as ducts that are made of thermoplastic or fiberglass. In Shea, the steel leaf surface of the notched flange clamp 15 is merely used to provide flexibility to snugly fit within the joint assembly. Contrary to the requirements in claim 27 that the axial tabs be *swaged* against said received *metal* tube to generate a

bite into said received metal tube and therefore lock the tube to the bracket, Shea suggests that each leaf of the notched flange clamp is held against the surface of the duct or pipe by band clamps 18. Band clamps 18 are placed around the perimeter of the notched flange clamps which tighten down the leaves of the notched flange clamp (*See* FIGS. 3 and 3A). The projection 16 (*See* FIGS. 2, 2A and 5) on each leaf is forced down into the exterior wall surface of the plastic duct or tube. Although there is a partial penetration of the projections into the duct wall which prevents separation of the ducts under modest pressure, the above-mentioned features of Shea is not able to generate enough hoop stress to properly secure the assembly. Therefore, Shea further teaches the use of either a V-band ring 20 (*See* FIGS. 1, 1A and 3) or an annular ring 22 such as a Van-Stone flange ring (*See* FIGS. 4A and 5) to properly secure the assembly. (Shea, col. 5, lines 10-44.)

In view of the foregoing, Shea fails at a minimum to teach or suggest the following limitations claimed in claim 27: 1) a *metal tube*; 2) a *collar being swaged against said metal tube and biting into said metal tube*; or 3) *the swaging of said collar presses said axial tabs against said metal tube to produce a hoop stress against said metal tube and causes said axial tabs to bite into said metal tube thereby locking the tube to the bracket.*

A claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. Clearly, Shea does not expressly or inherently teach all of the elements recited in claim 27. Accordingly, claim 27 is patentable over Shea under 35 USC §102(b). Because claim 29 depends from claim 27, claim 29 is patentable under 35 USC §102(b) for the same reasons stated above.

### **The 35 U.S.C. § 103 Rejection**

Claims 4, 5, 30, 31 and 33 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Shea. Applicant respectfully traverses as follows.

As discussed previously, amended claim 1 is allowable. Accordingly, claim 1 is patentable over Shea under § 103. Because claims 4 and 5 depend from claim 1, directly or indirectly, claims 4 and 5 are patentable under 35 USC §103(a) for the same reasons stated above.

Shea fails to teach or suggest each and every element as set forth in claim 27 as described previously in connection with the discussion of the § 102(b) rejection. Therefore, Shea does not render claim 27 obvious. Accordingly, claim 27 is patentable over Shea under § 103. Because claims 30, 31 and 33 depend from claim 27, directly or indirectly, claims 30, 31 and 33 are patentable under 35 USC §103(a) for the same reasons stated above.

### **Conclusion**

In view of the foregoing, reconsideration and allowance of this application are earnestly solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney at the telephone number listed herein below to discuss any steps necessary for placing the application in condition for allowance.

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Respectfully submitted,

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